NR 445 Air Toxics: Overview of Wisconsin Hazardous Air Pollutant Rule

FET Environment ‘05

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Today's Presentation

- Help you to understand….
  - What's new
  - What's affected
  - What needs to be done
- Provide opportunity for questions

New Pollutants

- New HAPs based on potential health effects
  - 50 carcinogens
  - 72 acute & chronic noncarcinogens
- Listing criteria & setting standards
  - Unchanged

New Requirements

- CI Engines
  - Fuel requirement
  - Particulate control
- Coal Handling & Storage
  - Dust abatement
- Sources of Incidental Emissions

New Flexibility

- Risk Based Thresholds
- Risk Based Showings
- Compliance Certifications
- Permit Exemption
- 3rd Party Certification

New Chapter Format

- Three Subchapters
  - General provisions
  - Requirements prior to demonstrating compliance with subchapter III
  - Requirements for all sources now & into the future

New Chapter Format

- Transition Issues
  - Tables 1-5 remain in effect until facility demonstrates compliance with new requirements
  - Permits, orders & variance approvals remain in effect

What's Affected

- Emission sources
  - capable of emitting a newly listed HAP
  - capable of emitting a previously listed HAP greater than new threshold

What's Affected (cont.)

- Emission sources
  - non-exempt stationary CI engines burning fuel oil
  - coal handling & storage exceeding 1000 TPY

Permit Exemption

NR 406.04(2)(f)

- General exemption for HAPs
- Reduces need to obtain construction permit when driven solely by state HAPs
- Conditional

Permit Exemption

NR 406.04(2)(f)

- Change allowed to occur provided compliance with NR 445 requirements is demonstrated
- Exception for sources subject to BACT or LAER!

What Needs to Be Done

- Identify & Quantify
  - annual reporting for HAPs exceeding NR438 thresholds
- Compliance Demonstration prior to June 30, 2007
  - if emissions cannot be capped below thresholds

What (Does Not) Need to Be Done

- IMPORTANT!

  A source currently operating under a BACT or LAER approval DOES NOT need to "re-demonstrate" compliance for the HAP(s) subject to the approval

Name

CAS #

Stack Thresholds

Standards & Requirements

ble A

Emission Thresholds, Standards and Control Requirements for All Sources of Hazardous Air Contaminants

Hazardous Air Contaminant	CAS Number	Thresholds for Emission Points[1] (expressed as lbs/hr or lbs/yr)				Ambient Air Standard (per time period in column (h) expressed as micrograms per cubic meter)	Time Period for Standard and Threshold	Control Requirement
		Emissions from Stacks <25 ft	Emissions from Stacks 25 to <40 ft	Emissions from Stacks 40 to <75 ft	Emissions from Stacks ≥75 ft			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
Acetaldehyde	75-07-0	3.36	10.7	20.6	55.3	4,504	1 Hr	N/A
		808	3,318	7,900	27,845	N/A	Annual	BACT
Acetic acid	64-19-7	1.32	5.12	10.3	39.8	589	24 Hr Avg	N/A
Acetic anhydride	108-24-7	1.12	4.36	8.79	33.9	501	24 Hr Avg	N/A
Acetonitrile	75-05-8	3.61	14	28.3	109	1,612	24 Hr Avg	N/A
Acetophenone	98-86-2	2.64	10.3	20.7	79.7	1,179	24 Hr Avg	N/A
Acrolein	107-02-8	0.0171	0.0545	0.105	0.281	22.9	1 Hr	N/A
Acrylamide	79-06-1	0.00161	0.00626	0.0126	0.0486	0.72	24 Hr Avg	N/A
		1.37	5.62	13.4	47.1	N/A	Annual	BACT
Acrylic acid	79-10-7	178	730	1,738	6,126	1	Annual	N/A
		0.317	1.23	2.48	9.56	141	24 Hr Avg	N/A

Time Periods

Table A
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(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
1-Chloro-2,3-epoxypropane (Epichlorohydrin)	106-89-8	0.102	0.395	0.797	3.07	45.4	24 Hr Avg	N/A
		178	730	1,738	6,126	1	Annual	N/A
		1,481	6,083	14,484	51,049	N/A	Annual	BACT

Based on 2.4% of TLV

Substances may have multiple standards to protect against different health effects

Based on US EPA Reference Concentration

Based on Carcinogenic Classification

New risk based thresholds for carcinogenic HAPs

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Benzene	71-43-2	228	936	2,228	7,854	N/A	Annual	LAER
Benzidine	92-87-5	0.0265	0.109	0.259	0.914	N/A	Annual	LAER

Based on unit risk factor

Benzo(b)fluoranthene	205-99-2	2.43	10	23.8	83.9	N/A	Annual	BACT
Benzo(j)fluoranthene	205-82-3	2.43	10	23.8	83.9	N/A	Annual	BACT

Or where no unit risk factor is established, on a statistical analysis of all unit risk factors

Important things to keep in mind when using the tables!

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Table thresholds can only be used if emissions are from unobstructed vertical stack.

Calculate emissions using non-exempt, potential to emit or maximum theoretical emissions in absence of a permit.

Use the appropriate time period!

How do the stack thresholds work?

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Sum emissions from each HAP in a height category at the facility together.

Compare emissions against respective category.

If over on any, include all emissions in compliance demonstration.

Resources

- Regional & Central Office DNR Staff
  - http://www.dnr.state.wi.us/org/aw/air/staff/staff.htm
- DNR Air Toxic Program Website
  - http://www.dnr.state.wi.us/org/aw/air/health/airtoxics
- Dept. of Commerce Small Business Clean Air Assistance Program
  - http://www.commerce.state.wi.us/MT/MT-CA-sbcaap.html

Questions?